

RECEIVED
CENTRAL FAX CENTER
AUG 25 2006

IN THE CLAIMS

1-36. (cancelled)

37. (currently amended) A method of fixedly securing a fastener to a bone plate, said method comprising:

surgically preparing bone tissue in need of repair for receipt of a bone plate;

placing a bone plate proximal to said bone tissue in need of repair, said bone plate having at least one opening therethrough; and

inserting a bone screw through the at least one opening and into the bone tissue, wherein at least one of the fastener and the bone plate include an adhesive to fixedly secure the fastener to the bone plate. The method of claim 34 wherein said inserting comprises deforming a portion of the bone plate or the fastener with a solvent.

38. (currently amended) The method of claim 34 37 comprising applying said adhesive to the fastener.

39. (currently amended) The method of claim 34 37 comprising applying said adhesive to the bone plate.

40-47. (cancelled)

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 2 of 20

48. (currently amended) The implant assembly of claim 40 58 wherein the bone plate is flexible to allow articulation of adjacent bone structures.

49. (currently amended) The implant assembly of claim 40 58 wherein the bone plate is configured to connect to adjacent vertebrae bodies.

50. (cancelled)

51. (previously presented) An orthopedic implant assembly comprising:

a bone plate comprising at least one opening therethrough; and

a fastener formed of a non metallic material and comprising a head and an opposite tissue engaging portion, wherein said fastener is received through the at least one opening and bonded to the bone plate, wherein the fastener is solvent bonded to the bone plate.

52. (previously presented) The implant assembly of claim 51 wherein the bone plate comprises a first polymeric material, and wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

53-57. (cancelled)

58. (New) An implant assembly comprising:

RESPONSE TO OFFICE ACTION

Application Ser. No. 10/634,245

Atty. Docket No. 4002-3361

Page 3 of 20

a bone plate having at least one opening extending therethrough, and
a fastener received within said opening and having a proximal head, a distal bone-engaging portion, and a shaft therebetween, wherein at least one of the fastener and the bone plate include an adhesive to fixedly interengage the fastener to the bone plate, wherein at least one of the bone plate and the fastener includes a pressure sensitive adhesive.

59. (New) The implant assembly of claim 58 wherein at least one of the bone plate and the fastener are formed of a biodegradable material.

60. (New) The implant assembly of claim 58 wherein the fastener is formed of a polymeric material from the group consisting of homopolymers, co-polymers, and oligomers of: polyhydroxy acids, polyesters, polyorthoesters, polyanhydrides, polydioxanone, polydioxanediones, polyesteramides, polyaminoacids, polyamides, polycarbonates, polylactide, polyglycolide, tyrosine-derived polycarbonate, polyanhydride, polyorthoester, polyphosphazene, polyethylene, polyester, polyvinyl alcohol, polyacrylonitrile, polyamide, polytetrafluorethylene, poly-paraphenylene terephthalamide, polyaryletherketones, polyetherketones, cellulose, carbon fiber reinforced composite, and mixtures thereof.

61. (New) The implant assembly of claim 58 wherein at least one of the fastener and the bone plate are formed of a polymer comprising monomeric repeating units derived from the group consisting of d-lactic acid, l-lactic acid, glycolic acid, caprolactone, hydroxy buteric acid, hydroxy valeric acid, and mixtures thereof.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 4 of 20

62. (New) The implant assembly of claim 58 wherein the bone plate comprises a metallic material.

63. (New) The implant assembly of claim 58 wherein the bone plate comprises a first polymeric material.

64. (New) The implant assembly of claim 63 wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

65. (New) The implant assembly of claim 58 wherein the bone plate comprises a composite material.

66. (New) An implant assembly comprising:

a bone plate having at least one opening extending therethrough, and

a fastener received within said opening and having a proximal head, a distal bone-engaging portion, and a shaft therebetween, wherein at least one of the fastener and the bone plate include an adhesive to fixedly interengage the fastener to the bone plate, wherein the adhesive is selected from the group consisting of: epoxies, acrylates, cyanoacrylates, polyesters, polyolefins, polyurethanes, silicone adhesives, and mixtures thereof.

67. (New) The implant assembly of claim 66 wherein at least one of the bone plate and the fastener are formed of a biodegradable material.

68. (New) The implant assembly of claim 66 wherein the fastener is formed of a polymeric material from the group consisting essentially of homopolymers, co-polymers, and oligomers of: polyhydroxy acids, polyesters, polyorthoesters, polyanhydrides, polydioxanone, polydioxanediones, polyesteramides, polyaminoacids, polyamides, polycarbonates, polylactide, polyglycolide, tyrosine-derived polycarbonate, polyanhydride, polyorthoester, polyphosphazene, polyethylene, polyester, polyvinyl alcohol, polyacrylonitrile, polyamide, polytetrafluorethylene, poly-paraphenylene terephthalamide, polyaryletherketones, polyetherketones, cellulose, carbon fiber reinforced composite, and mixtures thereof.

69. (New) The implant assembly of claim 66 wherein at least one of the fastener and the bone plate are formed of a polymer comprising monomeric repeating units derived from the group consisting of d-lactic acid, l-lactic acid, glycolic acid, caprolactone, hydroxy buteric acid, hydroxy valeric acid, and mixtures thereof.

70. (New) The implant assembly of claim 66 wherein the bone plate comprises a metallic material.

71. (New) The implant assembly of claim 66 wherein the bone plate comprises a first polymeric material.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 6 of 20

72. (New) The implant assembly of claim 71 wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

73. (New) The implant assembly of claim 66 wherein the bone plate comprises a composite material.

74. (New) An implant assembly comprising:

a bone plate having at least one opening extending therethrough, and

a fastener received within said opening and having a proximal head, a distal bone-engaging portion, and a shaft therebetween, wherein at least one of the fastener and the bone plate include an adhesive to fixedly interengage the fastener to the bone plate, wherein the adhesive is a two-part adhesive and wherein a first part of the adhesive is provided on the bone plate and a second part of the adhesive is provided on the fastener, whereby contact of the bone plate with the fastener combines the first part and the second part of the adhesive.

75. (New) The implant assembly of claim 74 wherein at least one of the bone plate and the fastener are formed of a biodegradable material.

76. (New) The implant assembly of claim 74 wherein the fastener is formed of a polymeric material from the group consisting essentially of homopolymers, co-polymers, and oligomers of: polyhydroxy acids, polyesters, polyorthoesters, polyanhydrides, polydioxanone,

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 7 of 20

polydioxanediones, polyesteramides, polyaminoacids, polyamides, polycarbonates, polylactide, polyglycolide, tyrosine-derived polycarbonate, polyanhydride, polyorthoester, polyphosphazene, polyethylene, polyester, polyvinyl alcohol, polyacrylonitrile, polyamide, polytetrafluorethylene, poly-paraphenylene terephthalamide, polyaryletherketones, polyetherketones, cellulose, carbon fiber reinforced composite, and mixtures thereof.

77. (New) The implant assembly of claim 74 wherein at least one of the fastener and the bone plate are formed of a polymer comprising monomeric repeating units derived from the group consisting of d-lactic acid, l-lactic acid, glycolic acid, caprolactone, hydroxy buteric acid, hydroxy valeric acid, and mixtures thereof.

78. (New) The implant assembly of claim 74 wherein the bone plate comprises a metallic material.

79. (New) The implant assembly of claim 74 wherein the bone plate comprises a first polymeric material.

80. (New) The implant assembly of claim 79 wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Attr. Docket No. 4002-3361
Page 8 of 20

81. (New) The implant assembly of claim 74 wherein the bone plate comprises a composite material.

82. (New) A method of fixedly securing a fastener to a bone plate, said method comprising:

surgically preparing bone tissue in need of repair for receipt of a bone plate;

placing a bone plate proximal to said bone tissue in need of repair, said bone plate having at least one opening therethrough; and

inserting a bone screw through the at least one opening and into the bone tissue, wherein at least one of the fastener and the bone plate include an adhesive to fixedly secure the fastener to the bone plate, wherein the adhesive is a pressure-sensitive adhesive.

83. (New) The method of claim 82 comprising applying said adhesive to the fastener.

84. (New) The method of claim 82 comprising applying said adhesive to the bone plate.

85. (New) The method of claim 82 wherein said adhesive is pre-applied.

86. (New) The method of claim 82 wherein said adhesive is applied during or immediately before a surgical procedure including said preparing, placing and inserting steps.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Attr. Docket No. 4002-3361
Page 9 of 20

87. (New) A method of fixedly securing a fastener to a bone plate, said method comprising:

surgically preparing bone tissue in need of repair for receipt of a bone plate;

placing a bone plate proximal to said bone tissue in need of repair, said bone plate having at least one opening therethrough; and

inserting a bone screw through the at least one opening and into the bone tissue, wherein at least one of the fastener and the bone plate include an adhesive to fixedly secure the fastener to the bone plate, wherein the adhesive is selected from the group consisting of: epoxies, acrylates, cyanoacrylates, polyesters, polyolefins, polyurethanes, silicones, and mixtures thereof.

88. (New) The method of claim 87 comprising applying said adhesive to the fastener.

89. (New) The method of claim 87 comprising applying said adhesive to the bone plate.

90. (New) The method of claim 87 wherein said adhesive is pre-applied.

91. (New) The method of claim 87 wherein said adhesive is applied during or immediately before a surgical procedure including said preparing, placing and inserting steps.

92. (New) An orthopedic implant assembly comprising:

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 10 of 20

a bone plate comprising at least one opening therethrough; and

a fastener formed of a non metallic material and comprising a head and an opposite tissue engaging portion, wherein said fastener is received through the at least one opening and bonded to the bone plate, wherein at least one of the bone plate and the fastener includes a pressure sensitive adhesive.

93. (New) The implant assembly of claim 92 wherein at least one of the bone plate and the fastener are formed of a biodegradable material.

94. (New) The implant assembly of claim 92 wherein the fastener is formed of a polymeric material from the group consisting essentially of homopolymers, co-polymers, and oligomers of: polyhydroxy acids, polyesters, polyorthoesters, polyanhydrides, polydioxanone, polydioxanediones, polyesteramides, polyaminoacids, polyamides, polycarbonates, polylactide, polyglycolide, tyrosine-derived polycarbonate, polyanhydride, polyorthoester, polyphosphazene, polyethylene, polyester, polyvinyl alcohol, polyacrylonitrile, polyamide, polytetrafluorethylene, poly-paraphenylene terephthalamide, polyaryletherketones, polyetherketones, cellulose, carbon fiber reinforced composite, and mixtures thereof.

95. (New) The implant assembly of claim 92 wherein at least one of the fastener and the bone plate are formed of a polymer comprising monomeric repeating units derived from the group consisting of d-lactic acid, l-lactic acid, glycolic acid, caprolactone, hydroxy buteric acid, hydroxy valeric acid, and mixtures thereof.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 11 of 20

96. (New) The implant assembly of claim 92 wherein the bone plate comprises a metallic material.

97. (New) The implant assembly of claim 92 wherein the bone plate comprises a first polymeric material.

98. (New) The implant assembly of claim 97 wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

99. (New) The implant assembly of claim 92 wherein the bone plate comprises a composite material.

100. (New) An orthopedic implant assembly comprising:

a bone plate comprising at least one opening therethrough; and

a fastener formed of a non metallic material and comprising a head and an opposite tissue engaging portion, wherein said fastener is received through the at least one opening and bonded to the bone plate, wherein at least one of the bone plate and the fastener includes an adhesive, and said adhesive is selected from the group consisting of: epoxies, acrylates, cyanoacrylates, polyesters, polyolefins, polyurethanes, silicone adhesives, and mixtures thereof.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 12 of 20

101. (New) The implant assembly of claim 100 wherein at least one of the bone plate and the fastener are formed of a biodegradable material.

102. (New) The implant assembly of claim 100 wherein the fastener is formed of a polymeric material from the group consisting essentially of homopolymers, co-polymers, and oligomers of: polyhydroxy acids, polyesters, polyorthoesters, polyanhydrides, polydioxanone, polydioxanediones, polyesteramides, polyaminoacids, polyamides, polycarbonates, polylactide, polyglycolide, tyrosine-derived polycarbonate, polyanhydride, polyorthoester, polyphosphazene, polyethylene, polyester, polyvinyl alcohol, polyacrylonitrile, polyamide, polytetrafluorethylene, poly-paraphenylene terephthalamide, polyaryletherketones, polyetherketones, cellulose, carbon fiber reinforced composite, and mixtures thereof.

103. (New) The implant assembly of claim 100 wherein at least one of the fastener and the bone plate are formed of a polymer comprising monomeric repeating units derived from the group consisting of d-lactic acid, l-lactic acid, glycolic acid, caprolactone, hydroxy buteric acid, hydroxy valeric acid, and mixtures thereof.

104. (New) The implant assembly of claim 100 wherein the bone plate comprises a metallic material.

105. (New) The implant assembly of claim 100 wherein the bone plate comprises a first polymeric material.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 13 of 20

106. (New) The implant assembly of claim 105 wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

107. (New) The implant assembly of claim 100 wherein the bone plate comprises a composite material.

108. (New) An orthopedic implant assembly comprising:

a bone plate comprising at least one opening therethrough; and

a fastener formed of a non metallic material and comprising a head and an opposite tissue engaging portion, wherein said fastener is received through the at least one opening and adhesively bonded to the bone plate, wherein the adhesive is a two-part adhesive and wherein a first part of the adhesive is provided on the bone plate and a second part of the adhesive is provided on the fastener, whereby contact of the bone plate with the fastener combines the first part and the second part of the adhesive.

109. (New) The implant assembly of claim 108 wherein at least one of the bone plate and the fastener are formed of a biodegradable material.

110. (New) The implant assembly of claim 108 wherein the fastener is formed of a polymeric material from the group consisting essentially of homopolymers, co-polymers, and oligomers of: polyhydroxy acids, polyesters, polyorthoesters, polyanhydrides, polydioxanone, polydioxanediones, polyesteramides, polyaminoacids, polyamides, polycarbonates, polylactide,
RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 14 of 20

polyglycolide, tyrosine-derived polycarbonate, polyanhydride, polyorthoester, polyphosphazene, polyethylene, polyester, polyvinyl alcohol, polyacrylonitrile, polyamide, polytetrafluorethylene, poly-paraphenylene terephthalamide, polyaryletherketones, polyetherketones, cellulose, carbon fiber reinforced composite, and mixtures thereof.

111. (New) The implant assembly of claim 108 wherein at least one of the fastener and the bone plate are formed of a polymer comprising monomeric repeating units derived from the group consisting of d-lactic acid, l-lactic acid, glycolic acid, caprolactone, hydroxy buteric acid, hydroxy valeric acid, and mixtures thereof.

112. (New) The implant assembly of claim 108 wherein the bone plate comprises a metallic material.

113. (New) The implant assembly of claim 108 wherein the bone plate comprises a first polymeric material.

114. (New) The implant assembly of claim 113 wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

115. (New) The implant assembly of claim 108 wherein the bone plate comprises a composite material.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 15 of 20

116. (New) An implant assembly comprising:

a bone plate having at least one opening extending therethrough;

a fastener received within said opening and having a proximal head, a distal bone-engaging portion, and a shaft therebetween; and

an adhesive applied to at least one of the fastener and the bone plate, wherein said adhesive acts to fixedly attach said fastener to said bone plate, wherein said adhesive has a first adhesive part applied to said plate and a second adhesive part applied to said fastener.

117. (New) The implant assembly of claim 116 wherein at least one of the bone plate and the fastener are formed of a biodegradable material.

118. (New) The implant assembly of claim 116 wherein the fastener is formed of a polymeric material from the group consisting essentially of homopolymers, co-polymers, and oligomers of: polyhydroxy acids, polyesters, polyorthoesters, polyanhydrides, polydioxanone, polydioxanediones, polyesteramides, polyaminoacids, polyamides, polycarbonates, polylactide, polyglycolide, tyrosine-derived polycarbonate, polyanhydride, polyorthoester, polyphosphazene, polyethylene, polyester, polyvinyl alcohol, polyacrylonitrile, polyamide, polytetrafluorethylene, poly-paraphenylene terephthalamide, polyaryletherketones, polyetherketones, cellulose, carbon fiber reinforced composite, and mixtures thereof.

119. (New) The implant assembly of claim 116 wherein at least one of the fastener and the bone plate are formed of a polymer comprising monomeric repeating units derived from the
RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 16 of 20

group consisting of d-lactic acid, l-lactic acid, glycolic acid, caprolactone, hydroxy buteric acid, hydroxy valeric acid, and mixtures thereof.

120. (New) The implant assembly of claim 116 wherein the bone plate comprises a metallic material.

121. (New) The implant assembly of claim 116 wherein the bone plate comprises a first polymeric material.

122. (New) The implant assembly of claim 121 wherein the fastener comprises a second polymeric material that is intermixed with the first polymeric material of the bone plate.

123. (New) The implant assembly of claim 116 wherein the bone plate comprises a composite material.

124. (New) The implant assembly of claim 116, wherein said first and second adhesive parts are intermixed on bringing said plate and said fastener together.

RESPONSE TO OFFICE ACTION
Application Ser. No. 10/634,245
Atty. Docket No. 4002-3361
Page 17 of 20